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See application file for complete search history.

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(57) **ABSTRACT**

A new class of polymeric additives for papermaking is disclosed as well as a process for their manufacture, a method for their use and a paper sheet containing the addition. The additives can be used in paper manufacture as agents for improving retention, paper machine operation and the strength properties of the product. The additives are manufactured from a microbial biomass. The biomass that contains acetyl amino groups or other amides is chemically modified by hydrolysis of the amides to form primary amino groups. Under neutral or acidic conditions these primary amines become cationic, which assures a good absorption of the additive onto fibres and fines of pulp that is generally of anionic nature.

24 Claims, No Drawings